

DNF Cheatsheet

By Dejan Panovski • Updated on Feb 18, 2026 • [Download PDF](#)

Quick reference for package management with dnf on Fedora, RHEL, and derivatives

DNF is the default package manager on Fedora, RHEL, and many derivatives. This cheatsheet covers common dnf commands for searching, installing, updating, removing, and troubleshooting packages.

Basic Commands

Start with package lists and metadata.

<code>dnf --version</code>	Show DNF version
<code>dnf check-update</code>	List available updates
<code>dnf makecache</code>	Refresh repository metadata cache
<code>dnf repolist</code>	List enabled repositories
<code>dnf repolist all</code>	List all repositories

Search and Info

Find packages and inspect details.

<code>dnf search nginx</code>	Search packages by keyword
<code>dnf info nginx</code>	Show package details
<code>dnf provides /usr/bin/python3</code>	Find package that provides a file
<code>dnf list installed</code>	List installed packages
<code>dnf list available</code>	List available packages from repos

Install and Remove

Install, remove, and reinstall packages.

<code>sudo dnf install nginx</code>	Install one package
<code>sudo dnf install nginx php-fpm</code>	Install multiple packages
<code>sudo dnf remove nginx</code>	Remove package
<code>sudo dnf autoremove</code>	Remove unneeded dependencies
<code>sudo dnf reinstall nginx</code>	Reinstall package

Update and Upgrade

Keep the system and packages up to date.

<code>sudo dnf update</code>	Update installed packages
<code>sudo dnf upgrade</code>	Upgrade packages (same effect in most setups)
<code>sudo dnf upgrade --refresh</code>	Refresh metadata and upgrade
<code>sudo dnf update --security</code>	Apply security updates only
<code>sudo dnf offline-upgrade download</code>	Prepare offline upgrade (where supported)

Groups and Modules

Work with package groups and modular streams.

<code>dnf group list</code>	List package groups
<code>sudo dnf group install "Development Tools"</code>	Install package group
<code>sudo dnf group remove "Development Tools"</code>	Remove package group
<code>dnf module list</code>	List module streams
<code>sudo dnf module enable nodejs:20</code>	Enable a module stream
<code>sudo dnf module reset nodejs</code>	Reset module stream

Repository Management

Enable, disable, and inspect repositories.

<code>sudo dnf config-manager --set-enabled repo_id</code>	Enable repository
<code>sudo dnf config-manager --set-disabled repo_id</code>	Disable repository
<code>dnf repoinfo</code>	Show repo details
<code>dnf repoinfo repo_id</code>	Show one repository details
<code>sudo dnf clean all</code>	Clear all cache data

Query and History

Review installed files and transaction history.

<code>rpm -ql nginx</code>	List files installed by package
<code>rpm -qf /usr/sbin/nginx</code>	Find package owning a file
<code>dnf history</code>	Show transaction history
<code>dnf history info 25</code>	Show details of transaction ID 25
<code>sudo dnf history undo 25</code>	Undo transaction ID 25

Troubleshooting

Common checks when package operations fail.

Metadata errors or stale cache	Run <code>sudo dnf clean all</code> then <code>sudo dnf makecache</code>
Package not found	Verify enabled repos with <code>dnf reposit</code> and use <code>dnf search</code>
Dependency conflicts	Retry with <code>--allowerase</code> only after reviewing affected packages
GPG key error	Import/verify repository GPG key and retry
Slow mirror response	Refresh metadata and test another mirror/repo configuration

Related Guides

Use these references for broader package management workflows.

How to Use apt Command	Package management on Ubuntu, Debian, and derivatives
Linux Commands Cheatsheet	General Linux command quick reference